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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,714	12/05/2003	Ju-hyung Kim	1568.1081	6907
49455	7590	09/07/2005		
STEIN, MCEWEN & BUI, LLP 1400 EYE STREET, NW SUITE 300 WASHINGTON, DC 20005			EXAMINER WALKER, KEITH D	
			ART UNIT	PAPER NUMBER
			1745	

DATE MAILED: 09/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/727,714

Applicant(s)

KIM ET AL.

Examiner

Keith Walker

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 12-28,33 and 34 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☐ Claim(s) 12-28,33 and 34 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Specification*

1. The change made concerning the disclosure has been noted.

### *Double Patenting*

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Omum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 27 & 28 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 18 & 28 of copending Application No. 10/737,837. Although the conflicting claims are not identical, they are not patentably distinct from each other because they both claim a can housing an electric generation element with a safety device, a plate attached to a first surface of the can, and a lead unit electrically connecting the first terminal and the second terminal through the safety device.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### *Claim Rejections - 35 USC § 103*

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 12-14, 17-28 & 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,976,729 (Morishita) in view of US Patent 6,492,058 (Watanabe) and as evidenced by US Patent 5,188,909 (Pedicini).

Morishita teaches a can housing an electrical generating element (Abstract). The lithium cell has a first surface of the outer can and a second surface being the lid (Col. 4, ll. 1-16). It is obvious to one skilled in the art to attach one electrode to a first surface of the case and the opposite electrode to a second surface to make a battery with external contacts, as evidenced by Pedicini (Col. 5, ll. 52-66). The outer can and lead are made of the same material, aluminum, (clm. 13) and are welded together using ultrasonic welding (clms. 27, 28) (Col. 2, ll. 37-40). Claims 27 and 28 are seen as product-by-process claims and even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). The product is the outer can with the lead attached. The method of forming the weld is not germane to the issue of patentability of the device itself and therefore this

limitation has not been given patentable weight. Further, Morishita teaches the use of different materials in the making of the leads with alternate welding techniques. As stated above, the outer can and lead are made of the same material and attached using ultrasonic welding so a smaller heat value is required, thereby preventing the occurrence of pinholes and cracks (Col. 2, ll. 37-53). Two-layer cladding for the lead plate is also used for current utilization (Col. 5, ll. 22-27). So regarding the different first and second materials used as leads in claims 14 & 18-25, the use of multiple materials is taught and it would have been obvious to one having ordinary skill in the art at the time the invention was made to pick lead materials based on the use in the battery and the style of welding needed. It is held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice (*In re Leshin*, 125 USPQ 416).

Morishita teaches attaching the lead unit external to the cell, however doesn't speak to the placement of the lead unit external to the housing. It would have been obvious to one having ordinary skill in the art at the time the invention was made to place the lead unit external to the can since it has been held that rearranging parts of an invention involves only routine skill in the art (*In re Japikse*, 86 USPQ 70).

Morishita does not speak directly to the use of a lead connecting the two terminals through a safety device (clms. 12, 14), which acts to hinder the current flow when the voltage in the battery increases (clms. 17, 26). Morishita does not explicitly disclose a protecting circuit connecting the terminal and safety device (clms. 18-20).

Watanabe teaches using a positive temperature coefficient (PTC) safety device between the terminals (Fig. 10, 15, Col. 8, 43-49). The PTC protects the battery by restricting the flow of current when the temperature increases and a rapid increase in the voltage will cause the battery to heat up. A protection circuit is used in conjunction with the PTC to aid in preventing the over-charging and over-discharging (Fig. 1 & 2, Col. 1, ll. 13-20). The protection circuit is connected to the safety device and the second terminal (Col. 8, ln. 65 – Col. 9, ln. 5).

The motivation to use the PTC and protection circuit with the lithium cell is to protect the battery from over-charge or over-discharge by restricting the flow of current when the temperature increases or the if the fluctuations in the voltage rise or drop beyond predetermined limits (Col. 5, ll. 15-25).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the lithium cell of Morishita with the PTC and protection circuit of Watanabe to improve the safety of the cell.

6. Claims 15 & 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morishita and Watanabe as applied to claim 12 above, and further in view of Pedicini.

The teachings of Morishita and Watanabe as described above are incorporated herein.

Morishita and Watanabe do not expressly disclose a safety vent in the cap that closes an opening in the can.

Pedicini teaches sealing the opening of the battery with a cap assembly that has a vent for the cell (Col. 5, ll. 52-66).

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The motivation to use a cap with a vent is to provide a means for the expulsion of any internal gas pressure created by the battery. The pressure will not only cause a decline in the effectiveness of the battery but can cause the battery to rupture.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the battery of Morishita and Watanabe with the cap vent to promote a safer and more efficient battery.

7. Claims 12-14, 17-28 & 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morishita, Watanabe and Pedicini in view of US Publication 2001/0038938 (Takahashi).

The teachings of Morishita, Watanabe and Pedicini as discussed above are incorporated herein.

Morishita, Watanabe and Pedicini do not discuss the placement of the lead unit outside the cell housing. Takahashi teaches placing the lead unit and the PTC external to the case (Figs. 4-6, Para. [0029 & 0089-0097]).

The motivation to locate the lead unit and PTC on the outside of the case is to attach the PTC to the cell without increasing the thickness of the electrochemical device.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the cell of Morishita with the external lead unit of Takahashi to reduce the thickness of the cell thereby providing a smaller more portable battery for commercial market.

***Response to Arguments***

8. Applicant's arguments with respect to claims 12-28 & 33-34 have been considered but are moot in view of the new ground(s) of rejection based on amendments. While Watanabe does teach the PTC device inside the case, as stated above, the placement of the device and the lead unit would be obvious to one skilled in the art. Further, Takahashi teaches placement of the PTC device outside the cell housing to keep the battery thickness to a minimum.

9. Applicant's arguments have been fully considered but they are not persuasive. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The individual teachings of the references are properly combined to reject the limitations of the instant claims.

***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not



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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith Walker whose telephone number is 571-272-3458. The examiner can normally be reached on Mon. - Fri. 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KW



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SUPERVISORY PATENT EXAMINER